

Chapter 1

AI/ML Within IS Auditing and Cybersecurity

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ABSTRACT

The adoption of AI and ML based technologies has exploded in recent years and has successfully been applied to various industries such as social media and healthcare. Organizations use many different statistically based AI and ML techniques, processes, and models to analyze and interpret data, identify any trends or patterns present, and ultimately improve a business process or gain a competitive advantage; this chapter will explore the use of AI and ML within IS auditing and cybersecurity.

INTRODUCTION

In the current era of data abundance and rapid data processing, organizations face significant challenges in effectively auditing and analyzing their complex information technology infrastructures. Traditional manual methods are unable to keep pace with the ever-increasing volume and velocity of data being collected and stored.

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Attempting to manually analyze the millions of data points organizations capture becomes an overwhelming and nearly impossible task, particularly when time-sensitive insights and impactful analysis are required. To address this dilemma, organizations are increasingly turning to the power of artificial intelligence (AI) and machine learning (ML) technologies to augment their data analysis capabilities and derive meaningful outcomes.

This research paper aims to delve into the application of AI and ML technologies to address a diverse range of challenges across various domains, including healthcare and social media platforms. By harnessing AI and ML, organizations can unlock new possibilities for data analysis, allowing them to uncover valuable insights and make data-driven decisions that can drive transformative impacts. Furthermore, the paper seeks to explore the role of AI and ML in enhancing controls within information systems, fortifying organizations against potential risks and vulnerabilities. It also endeavors to examine current use cases and explore the future potential of AI and ML in the domain of information systems auditing.

The structure of this paper encompasses a comprehensive background on AI and ML concepts, providing illustrative examples of their successful implementation in domains beyond information systems. By understanding the broader landscape of AI and ML applications, researchers and practitioners can gain valuable insights into the possibilities and limitations of these technologies. Additionally, the paper will conduct a meticulous literature review, exploring how AI and ML can augment control mechanisms within organizations and revolutionize the field of information systems auditing. The findings and results derived from this research will be presented and summarized, enabling a deeper understanding of the implications and potential benefits of integrating AI and ML into information systems practices. The paper will conclude with a comprehensive analysis and provide valuable insights for future research endeavors in this rapidly evolving domain.

Through this exploration of the intersection between AI, ML, and information systems, this research paper aims to contribute to the existing body of knowledge by shedding light on the transformative potential of these technologies. By embracing AI and ML, organizations can unlock new levels of efficiency, accuracy, and insight, ultimately empowering them to make informed decisions and drive innovation in their respective industries. With the promise of enhanced data analysis, strengthened controls, and improved auditing practices, the integration of AI and ML into information systems represents a significant opportunity for organizations to unlock their full potential in the digital age.

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